

Work Order ID 127409

December-17-14 1:22:57 PM

127409

Page 1

Item ID: D5017-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Support, 214 Fwd
 Start Date: 12/17/14 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 12/17/14 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: MCS Date: 14-12-19 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D5017	A

100	HAAS CNC VERTICAL MACHINING #1	0.00							
-----	--------------------------------	------	--	--	--	--	--	--	--

100

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine as per Folio FB248

FOLIO REV: A

DWG REV: A

2-Deburr

0.00

Handwritten signature and date 15-01-31

Handwritten 6 and 0

110	QC2- Inspect parts off machine FAI/FAIB	0.00							
-----	---	------	--	--	--	--	--	--	--

110

QC

Quality Control

Memo

0.00

Handwritten signature and date 15-01-31

Handwritten 6 and 0

120	QC8- Inspect parts - second check	0.00							
-----	-----------------------------------	------	--	--	--	--	--	--	--

120

QC

Quality Control

Memo

0.00

Handwritten B. 15/01/03

Handwritten 6 and 0

DAS
08
9-89

Handwritten RT02

DQA:

Date: 15/03/25



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: ~~RDH~~

Date: 15/03/23

Work Order update only ☐

Work Order: 127409	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS			
Part No. D5017-1		Skid-tube ☒	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. 15-4692		Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐
		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
		Large Fab ☐	Composite ☐	Supplier ☐	

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design ☐	15/02/02	100	2	Dim 2.995 is 2.980.	DAS 12 9-89	Acceptable.	DAS 12 9-89	mf 15/02/02	DAS 9 9-89
Doc/Data ☐						No effect on fit or strength.	15/2/2		15.02.03
Equip/Tooling ☐									
Handling/Pre ☐									
Material ☐									
Operator ☐									
Offset/Setup ☐									
Process ☒				R.C. process					
Supplier ☐									
Training ☐									
Transport ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☒ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge	☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	---	--

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127409

Page 2

Accept

N900040100

Setup Start

NS1

Stop

NS2

Item Name: Support, 214 Fwd

Start Date: 12/17/14 **Start Qty:** 6.00

6

Cust Item ID:

Required Date: 12/17/14 **Req'd Qty:** 6.00

6

Customer:

Reference:

Run Start

NR1

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

Stop

NR2

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

**Insp.
Stamp**

0.00

130

0.00

HandFXtube

Memo

Hand Finishing Crosstubes

Per note 9 on page 1 of dwg D5017, Prep inner concave surface of support and apply 3M Scotch-Weld as per dwg.
24H of cure time.

A/R SCOTCH-WELD BATCH: 128292

140

QC3- Inspect Part Finish

0.00

140

QC

Memo

0.00

Quality Control

150

Identify as per dwg & Stock Location: 1000 0.00

0.00

150

Packaging

Memo

0.00

Packaging

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Design									
Doc/Data									
Equip/Tooling									
Handling/Pre.									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General		
☐ Bending	☐ Bend	☐ Folio/Program	☐ Outside Dimensions
☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance
☐ Cracks	☐ Broken/Damage/Defect	☐ Hardware	☐ Part Incorrect
☐ Crimp/Kink/Ripple/Wave	☐ Burrs	☐ Inspection Incomplete/Unqualified	☐ Part Lost/Missing
☐ Cuffs	☐ Contamination	☐ Instructions Incomplete/Unclear	☐ Part Moved
☐ Crushing	☐ Countersink	☐ Misaligned/off center	☐ Positioned Wrong
☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Power Loss/Surge
☐ Inspection Strip in Tube	☐ Drawing	☐ Misread	☐ Pressure/Forced
☐ Marks/Chatter	☐ Drill Holes	☐ Off-set	☐ Set-up
☐ Turning Sequence	☐ Finish	☐ Out of Calibration	☐ Temperature/Cure
☐ Wave/Twist in Tube	☐ Fit/Function	☐ Out of Sequence	☐ Weld
			☐ Wrong Stock Pulled
			☐ Other

Work Order ID 127409***127409***

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160

QC21- Final Inspection - Work Order Release

0.00

160

QC

Memo

0.00

Quality Control

MLD 15-02-09

R5.26

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
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Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

December-17-14 1:22:57 PM

Page 1

Work Order ID: 127409

127409

Parent Item: D5017-1

D5017-1

Parent Item Name: Support, 214 Fwd

Start Date: 12/17/14

Required Date: 12/17/14

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV.A NEW ISSUE JFS 14/01/20 VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D5017-1TRN		Manufactured	No				Each	0.0000		6			
D5017-1TRN									**			15/01/30	
Support, 214 Fwd													

→ 124816

3 blanks

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

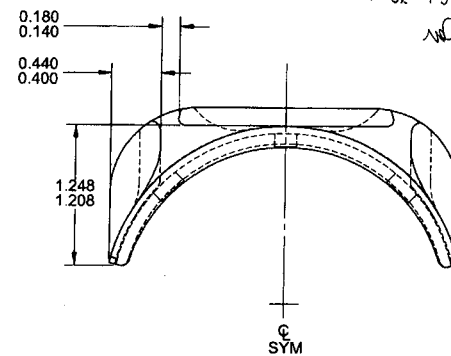
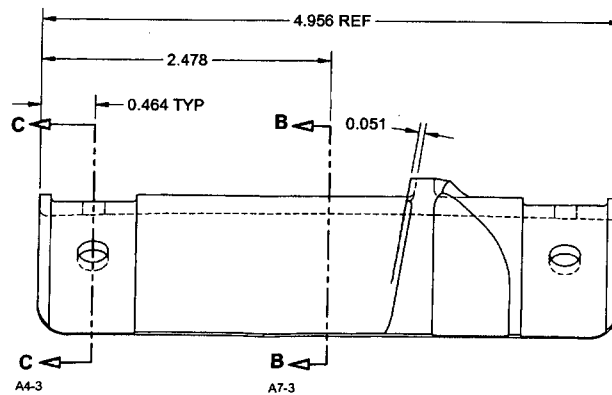
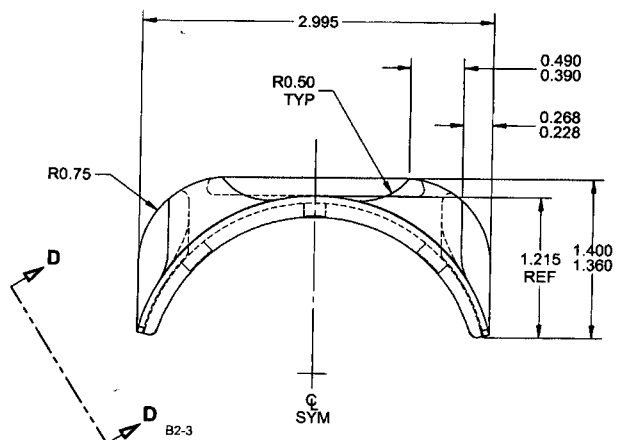
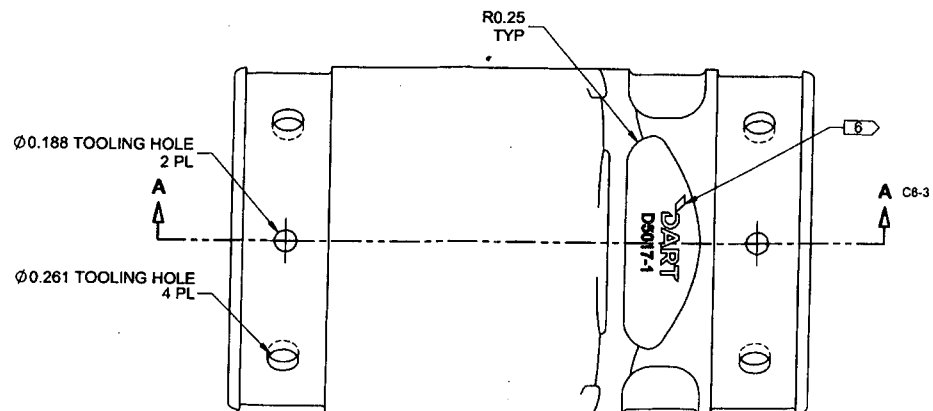
Work Order update only ☐

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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

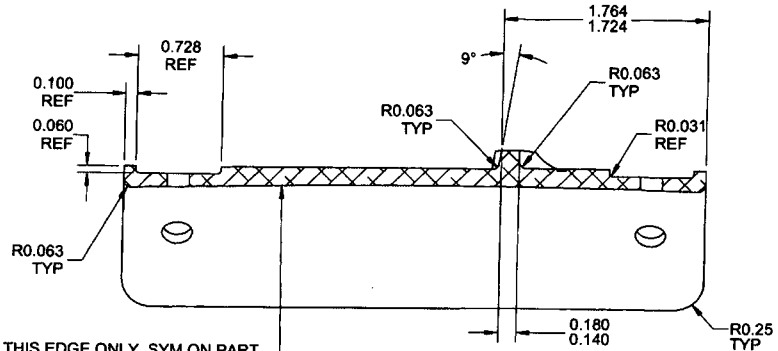
Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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RELEASED
2016-02-19

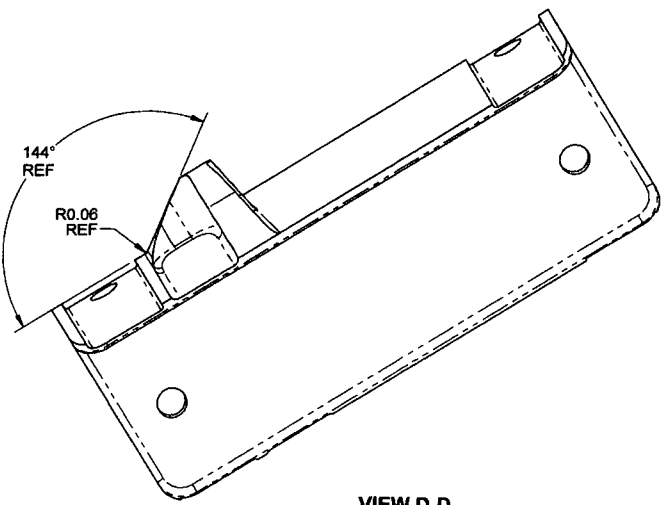
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DRAWN	CP		
CHECKED	AJS	DRAWING NO.	REV. A
MFG. APPR.	JLM	D5017	SHEET 2 OF 4
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	SUPPORT, 214 FWD	NTS
DATE	13.11.28	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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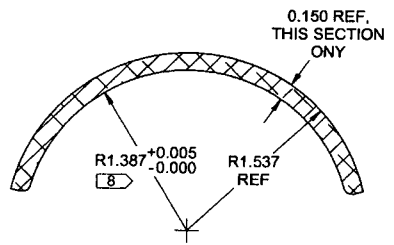


R87.4 THIS EDGE ONLY, SYM ON PART,
R1.387 (REF) NORMAL TO
THIS EDGE

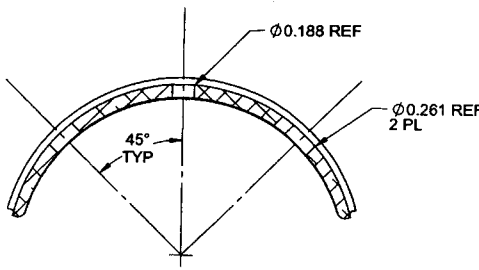
SECTION A-A
SCALE 1X D3-2



VIEW D-D
SCALE 1X A8-2



SECTION B-B
ONLY CUT FACES SHOWN
SCALE 1X A4-2

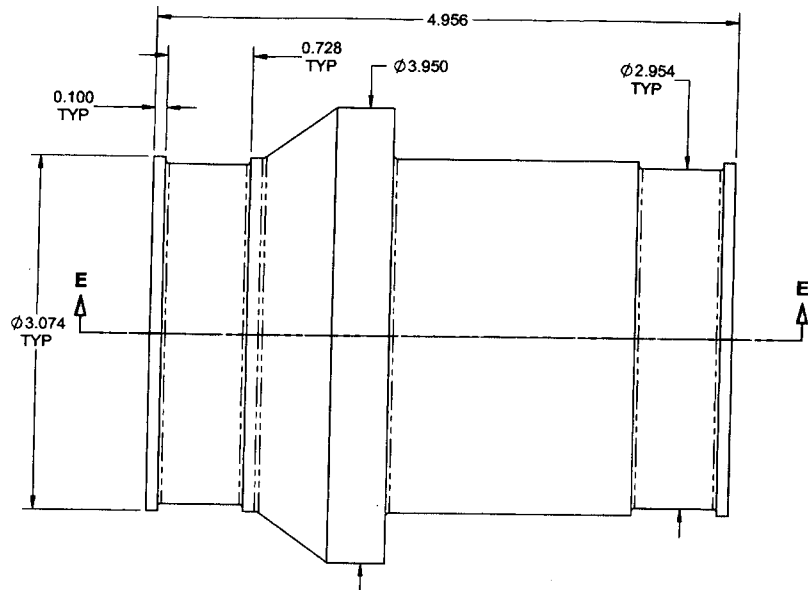


SECTION C-C
TOOLING HOLE DETAIL
2 PL, SCALE 1X A5-2

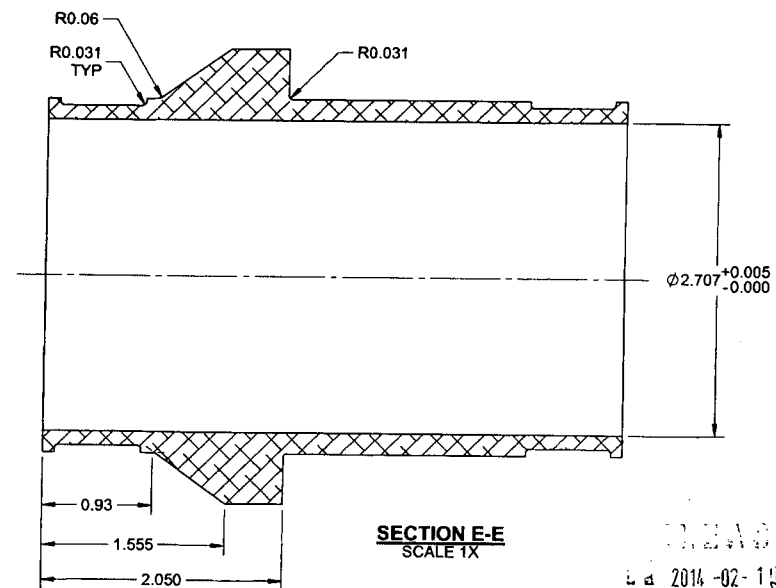
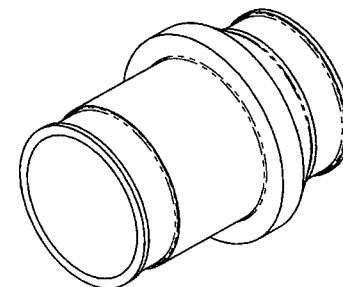
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2014-02-10

APPROVED	DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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	CHECKED	AJS	DRAWING NO.	REV. A
	MFG. APPR.	JLM	D5017	SHEET 3 OF 4
	APPROVED	MP	TITLE	SCALE
	DE APPR.	DS	SUPPORT, 214 FWD	NTS
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8 7 6 5 4 3 2 1



D5017-1TRN TURNING DETAIL



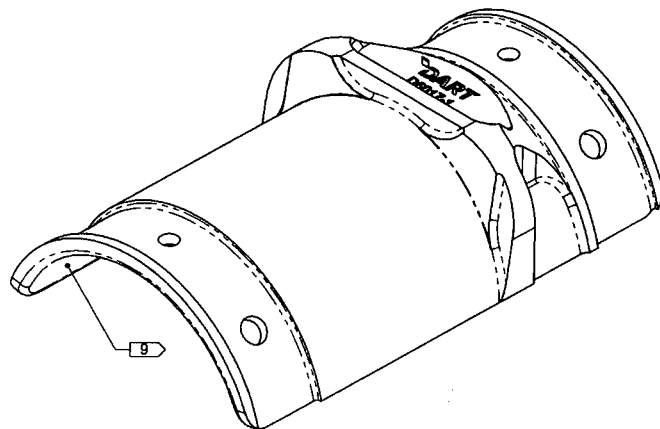
SECTION E-E
SCALE 1X

NOTES:

- 1) MATERIAL: 17-4PH STAINLESS STEEL, H900 OR H925 CONDITION
MIN UTS = 170 KSI (38 HRC)
REF DART SPEC. D6104
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: NONE
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 3.21 lbs

APPROVED

DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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CHECKED	AJS	DRAWING NO.	REV. A
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D5017-1 SUPPORT, 214 FWD

NOTES:

- 1) MATERIAL: MAKE FROM D5017-1TRN
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: DART LOGO AND P/N "D5017-1" IN THIS AREA WITH 0.125 HIGH X 0.010-0.020 DEEP LETTERING
PER DART QSI 044 6.3
- 7) WEIGHT: 0.88 lbs
- 8) INNER CONCAVE SURFACE HAS A CONSTANT RADIUS OF R1.387 (REF) CUT ALONG AN R87.4 (REF) PATH (ie. TORUS SHAPE)
- 9) FOR ENTIRE INNER CONCAVE SURFACE: ABRASE SURFACE WITH 400-GRIT SANDPAPER. REMOVE RESIDUE WITH MEK (OR EQUIV.),
APPLY 0.03" TO 0.05" THICK LAYER OF 3M SCOTCH-WELD 2216 B/A ADHESIVE TO MATING SURFACE OF SUPPORT. ALLOW TO CURE
FOR 24 HOURS.

SHOE COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 123409 MJS

14-12-19

RELEASED
2014-02-10

A		NEW ISSUE		CP	13.11.28
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